

EXAMINER'S NOTES

Matches 183; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MRKIVVAAIAVSITVSVITASASADPSKDSKAQVSAAEAGITGTTWYNOLGSTFIVTAGAD 60
1 MRKIVVAAIAVSITVSVITASASADPSKDSKAQVSAAEAGITGTTWYNOLGSTFIVTAGAD 60
Db 61 GALTGTYESAVGNARESRYLTGRYDSAPATDGSSTGALGTWVAKNNTRNATTSQGY 120
61 GALTGTYESAVGNARESRYLTGRYDSAPATDGSSTGALGTWVAKNNTRNATTSQGY 120
Db 121 VGGAEARINTQWLTSGTTEANAWKSTLVGHDFPTKVKPSAASIDAARKAGVNGNPLDA 180
121 VGGAEARINTQWLTSGTTEANAWKSTLVGHDFPTKVKPSAASIDAARKAGVNGNPLDA 180
QY 181 VQQ 183
Db 181 VQQ 183

RESULT 2

AAR93530
ID AAR93530 standard; protein; 183 AA.
AC AAR93530;
XX 04-JUN-1990 (first entry)
DE Streptavidin protein.
XX KW Streptavidin; Streptomyces avidinii; biotin.
XX OS Streptomyces avidinii.
FH Key location/Qualifiers
FT Peptide 1..24
FT /note= "Leader sequence"
FT Protein 25..159
FT /note= "This sequence was as the basis for the design for the synthetic gene of the present invention."
XX WO8903422-A.
XX 20-APR-1989.
XX 07-OCT-1988; 88WO-GB000831..
XX PR 08-OCT-1987; 87GB-00023661..
PA (BRBI-) BRIT BIO-TECHN LTD.
DR WPI; 1989-130040/17.
XX DNA sequence encoding streptavidin and vector - comprising hybrid gene
PT encoding fusion protein with biotin-binding activity.
Fig 1; page 1/5; 22pp; English.

PS XX Streptavidin is a 60kD protein isolated from *Streptomyces avidinii* that binds extremely tightly to the vitamin biotin. It is composed of four identical subunits of 15kD and binds 4 mole of biotin per mole of protein. It is structurally related to the protein avidin. It can be readily conjugated to a range of other proteins. In order to facilitate the incorporation of streptavidin into expression vectors and the production of novel chimeric proteins containing streptavidin functionality, an improved novel synthetic gene for streptavidin has been constructed (AAN90755) based on the amino acid sequence of mature streptavidin sequence 183 AA;

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Db 61 GALTGTYESAVGNARESRYLTGRYDSAPATDGSSTGALGTWVAKNNTRNATTSQGY 120
61 GALTGTYESAVGNARESRYLTGRYDSAPATDGSSTGALGTWVAKNNTRNATTSQGY 120
Db 121 VGGAEARINTQWLTSGTTEANAWKSTLVGHDFPTKVKPSAASIDAARKAGVNGNPLDA 180
121 VGGAEARINTQWLTSGTTEANAWKSTLVGHDFPTKVKPSAASIDAARKAGVNGNPLDA 180
QY 181 VQQ 183
Db 181 VQQ 183

RESULT 3

AAR44491
ID AAR44491 standard; protein; 183 AA.
AC AAR44491;
XX 25-MAR-2003 (revised)
DT 27-JUN-1994 (first entry)
DE Streptavidin gene.
XX KW Streptavidin; protein secretion; *Bacillus subtilis*.
OS Streptomyces avidinii.
FH Key location/Qualifiers
FT Misc-difference 1..24
FT /note= "expressed by transformed *B. subtilis*"
FT Protein 25..183
FT /label= streptavidin
FT Peptide 37..183
XX WO9324631-A1.
XX 09-DEC-1993.
XX PR 27-MAY-1993; 93WO-US005240.
XX PR 29-MAY-1992; 92US-00891524.
XX PA (DUPONT DU PONT DE NEMOURS & CO E.I.
XX PI Nagarajan V;
XX DR WPI; 1993-405822/50.
XX DR P-1SDB; AAQ53412.

PT Streptavidin prodn. from *Bacillus subtilis* - using signal protein from bacterial exo-protein and expression element from Gram positive bacterial protein.
XX Disclosure; Fig 1b; 54pp; English.

CC Tetrameric biologically active streptavidin is produced by secretion from *Bacillus subtilis* transformed with a plasmid encoding the sequence. (Updated on 25-MAR-2003 to correct PN field.)
CC Sequence 183 AA;

SQ Query Match 100.0%; Score 936; DB 2; Length 183;
Best Local Similarity 100.0%; Pred. No. 1..3e-75;
Matches 183; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MRKIVVAAIAVSITVSVITASASADPSKDSKAQVSAAEAGITGTTWYNOLGSTFIVTAGAD 60